C.T.M. Power Chair

HS-5600 User's Manual

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INTRODUCTION

Thank you and congratulations on purchasing your new C.T.M. Power Chair. It is designed to provide you with transportation indoors and outdoors.

Chien Ti Enterprise Co., Ltd. is the manufacturer for the C.T.M. mobility power chair. We pride ourselves on providing safe and comfortable products. Our goal is to ensure your complete satisfaction with our product. We are certain that you will enjoy your C.T.M. power chair.

Please read and observe all warnings and instructions given in the owner's manual before operating this power chair. Also, retain this booklet for future reference.

If you have any questions, please contact your local dealer or:

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IMPORTANT PRECAUTIONS

Here are some tips for your safety riding.

· Only one person at a time can ride a C.T.M. Power chair.

· Maximum load is 181 kg / 400 lbs.

· Turn off switch before getting on or off.

· Always ride carefully and be aware of others using the same area as yourself.

· Always use pedestrian crossings where possible. Take extreme care crossing roads.

· Do not drive on slopes exceeding 8 degrees, and take extreme care when turning on slopes.

· Do not use full power when turning sharp corners.

· Take great care and use low speeds for backing up, downhill, uneven surfaces, and curb climbing.

· Chair may not operate well in high humidity.

· Never put chair in neutral on slopes.

· Follow traffic laws when you ride outside.

EMI AND WARMINGS

It is very important that you read this information regarding the possible effects of Electromagnetic Interference on your motorized wheelchair.

Powered wheelchairs and motorized scooters may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy (EM) emitted from sources such a radio stations, TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones. The interference (from radio wave sources) can cause the motorized chair to release its brakes, move by itself, or move in unintended directions. It can also permanently damage the motorized chair control system. The intensity of the interfering EM energy can be measured in volts per meter (V/m). Each motorized chair can resist EMI up to a certain intensity. This is called its "immunity level". The higher the immunity level, the greater the protection. At this time, current technology is capable of achieving at least a 20 V/m immunity level, which would provide useful protection from the more common sources of radiated EMI. This motorized chair was tested using the configuration pictured on page 4. It had an immunity level of at least 20 V/m.

There are a number of sources of relatively intense electromagnetic fields in the everyday environment. Some of these sources are obvious and easy to avoid. Others are not apparent and exposure is unavoidable. However, we believe that by following the warnings listed below, your risk to EMI will be minimized.

The sources of radiated EMI can be broadly classified into three types :

1. Hand-held portable transceivers (transmitters-receivers) with the antenna mounted directly on the transmitting unit. Examples include: citizens band (CB) radios, "Walkie talkie," security, fire, and police transceivers, cellular telephones, and other personal communication devices.

> ⚠ **Some cellular telephones and similar devices transmit signals while they are ON, even when not being used;**

2. Medium-range mobile transceivers, such as those used in police cars, fire trucks, ambulances, and taxis. These usually have the antenna mounted on the outside of the vehicle; and

3.Long-range transmitters and transceivers such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.

Other types of hand-held devices, such as cordless phones, laptop computers, AM/FM radios, TV sets, CD players, and cassette players, and small appliances, such as electric shavers and hair dryers, so far as we know, are not likely to cause EMI problems to your motorized scooter.

Motorized Chair Electromagnetic Interference：

Because EM energy rapidly becomes more intense as one moves closer to the transmitting antenna (source), the EM fields from hand-held radio wave sources (transceivers) are of special concern. It is possible to unintentionally bring high levels of EM energy very close to the power chair control system while using these devices. This can affect power chair movement and braking. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of the power chair.

Warnings：

Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios, and cellular phones can affect the power chair. Following the warnings listed below should reduce the chance of unintended brake release or power chair movement, which could result in serious injury.

1.Do not operate hand-held transceivers (transmitters-receivers), such as citizens band (CB) radios, or turn ON personal communication devices, such as cellular phones, while the power chair is turned ON;

2.Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them;

3.If unintended movement or brake release occurs, turn the power chair OFF as soon as it is safe;

4.Be aware that adding accessories or components, or modifying the motorized chair, may make it more susceptible to EMI. (Note: There is no easy way to evaluate their effect on the overall immunity of the motorized scooter); and

5.Report all incidents of unintended movement or brake release to the distributor listed on the inside front cover of this manual. Note whether there is a source of EMI nearby.

Important Information

1.20 volts per meter (V/m) is a generally achievable and useful immunity level against EMI (as of May 1994). The higher the level, the greater the protection.

2.The immunity level of this product is 20 V/m.

IDENTIFICATION OF PARTS

Before attempting to drive this power chair on your own, it is important that you familiarize yourself with the controls and how they operate.

Figure 1 - HS-5600 Power Chair Front View

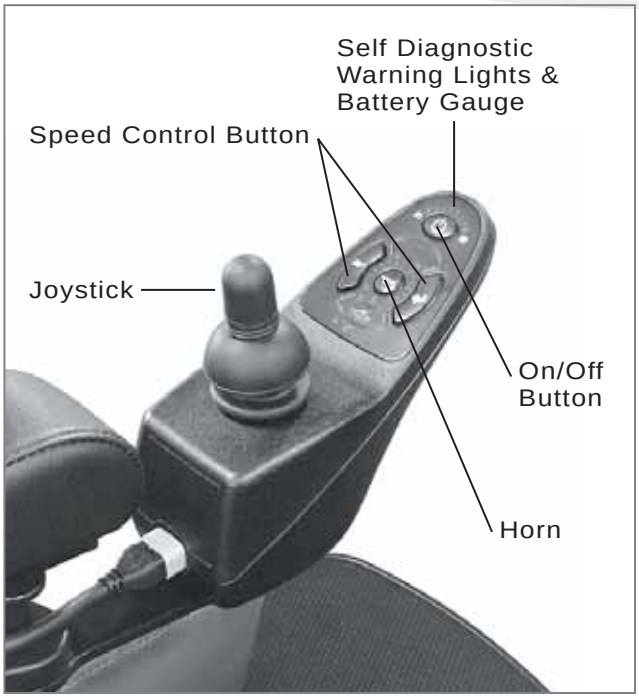

Figure 2 - HS-5600

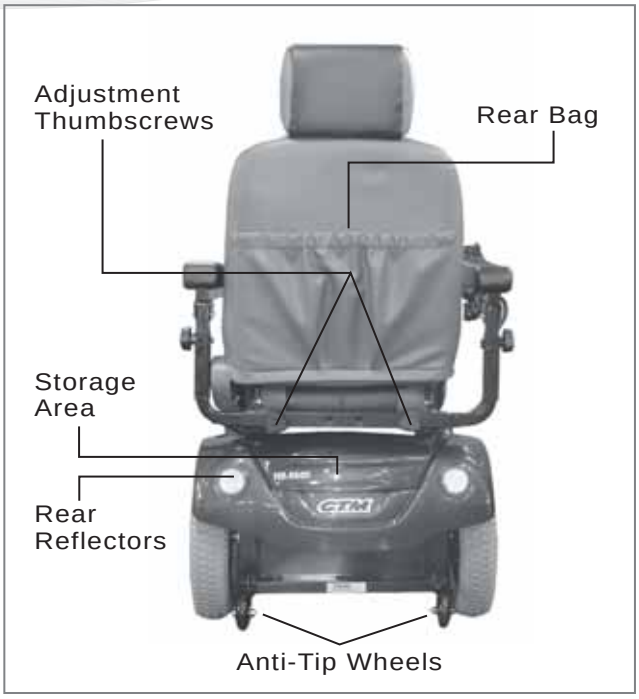

Figure 3 - HS-5600 Power Chair Rear View

ADJUSTMENTS

· SEAT：You can adjust your seatback angle and the headrest height. Lift up and push down the headrest easily. Lift up the lever to adjust the seatback angle. (See Fig. 4)

· ARMREST：The armrest is width adjustable. Loosen two knobs to move Armrest. (See Fig. 5)

Figure 4

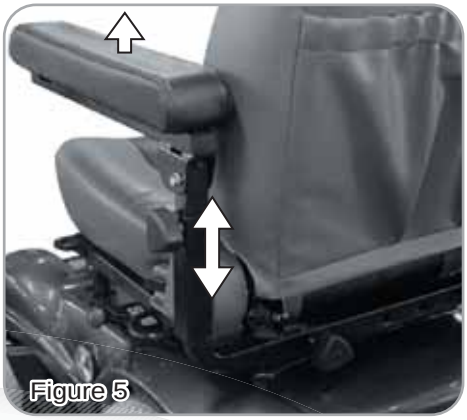
Figure 5

· JOYSTICK：You can change the distance of your Joystick for the desire position. (See Fig. 6)

· FREE-WHEELING DEVICE：

When levers are in the N (Neutral) position, the chair can be moved without power. When levers are in the D (Drive) position, the scooter can be driven.Normal position is D. Turn the levers to N position for disengaged. (See Fig. 7) Turn the levers to D position for engaged.

· FOOT PLATE：You can change the foot plate angle and height. Loosen the screw to adjust the angle and height. (See Fig. 8)

Figure 6

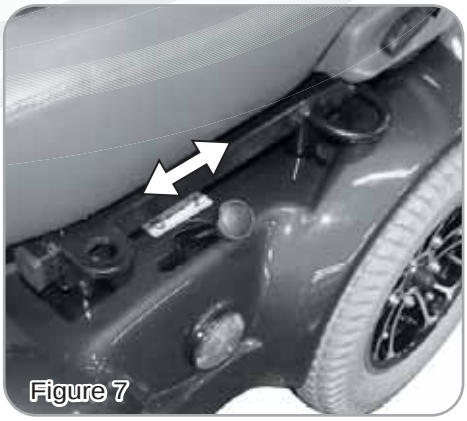
Figure 7

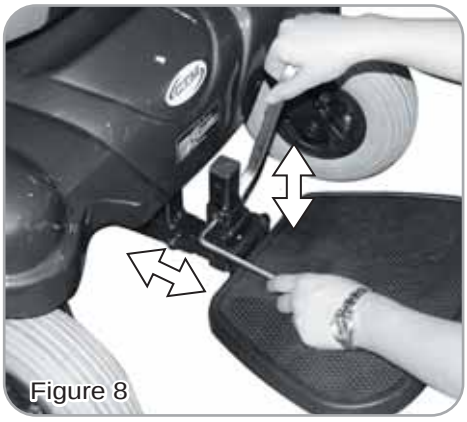
Figure 8

DISASSEMBLY AND ASSEMBLY

Your C.T.M. power chair can be disassembled for your easy transportation. Before disassembling your chair, please ensure the power has turned off and not in the free-wheeling position.

Unplug the joystick connectors. (See Fig. 09)
Remove seat by gently lifting up the two levers under the seat. (See Fig. 10)

Figure 09

Figure 10

Lift the body shroud up. (See Fig. 11)
Remove the two batteries. (See Fig. 12)

Figure 11

Figure 12

To assemble the chair, you can reverse the disassembly directions. Also refer to the Figures from 12 to 19.

Figure 13

OPERATION

Before operating your scooter, check the following:

· freewheeling lever is on D.

· speed dial is at the lowest speed (fully turned counterclockwise).

1.Sit on chair and fasten the seat belt. Insert the buckle (A) to (B) Depress the side button (C) to release.

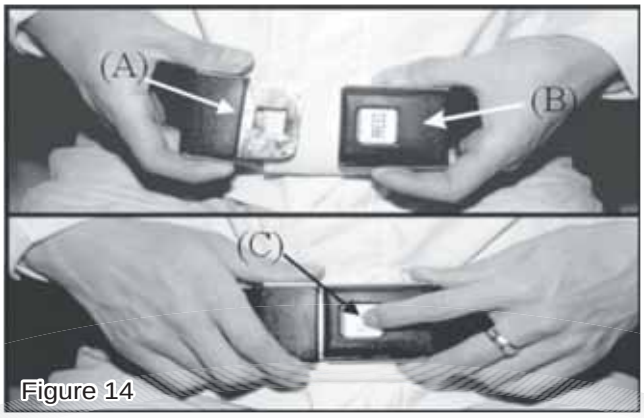

Figure 14

2.When turn on switch, the Battery Lever Indicator light should be fully lit in all areas.

3.When your right hand rest comfortably on the armrest, the joystick should be easily reached.Push the joystick in the direction you want to go, you may turn the chair in the 360-degree direction. When you stop pushing the joystick the chair will stop.

Figure 15

Figure 16

4.Practice riding where there are no obstacles. Start at the slowest speed and ride forward and backward; make some turns. As you get more comfortable you can increase the speed by turning the speed dial.

5.If the Power Reserve Indicator is only partially lit, you should plan to recharge the batteries very soon.

6.If the chair stops, locate the circuit breaker (D) on the rear unit. Push the circuit breaker and retry.

7.When you are finished riding, turn off the key before getting off.

While standing up, avoiding stepping on the foot plate. It may cause injury.

8.The batteries should be charged as soon as possible after each ride. See Recharging the Batteries, page 13 and 14.

CHARGING THE BATTERIES

Your C.T.M. power chair is equipped with two sealed, service free 12V rechargeable batteries and one 24V. 5A charger. Batteries must be charged before using the chair for the first time and should be recharged after each day's use. Be sure the power switch is in the OFF position.

1. Ensure the voltage switch on the battery charger. Use 115V for 110v circuits and 230v for 220v circuits.

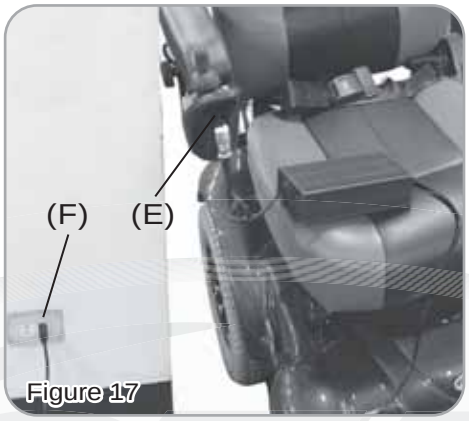

Figure 17

2. Ensure the main switch on the battery charger is OFF (position O).
3. Insert battery charger output terminal (E) into the chair charging port.
4. Plug the other end of the battery charger cable (F) into a standard electrical outlet.

> ⚠ **Do not place battery charger on batteries or close to other objects, so that heat can dissipate.**

5. Turn main switch on the battery charger to ON (position I).
6. The battery charger lights will normally be red and yellow at this point. Check whether you can hear the fan running. If the lights are not on or the fan is not running, turn OFF. Disconnect the battery charger and check the fuse for burnout. Replace fuse if necessary. Reconnect and try again. If it still does not work, contact your authorized dealer.
7. Allow to charge until the right battery charger light turns green.
8. After the light turns green, turn OFF battery charger, then unplug the battery charger from the chair.
9. If at any time the right battery charger light flashes green over 40 minutes, this indicates abnormal charging occurred. You should check that:
   - charger plugs are correctly positioned
   - fuse is not burned out
   - the scooter is turned off
   - if none of these is a problem, contact your authorized dealer.

> ⚠ **The time needed to recharge will vary depending on the depletion of the batteries. Charging for longer than necessary will not harm the batteries. They can not be overcharged.**

Keep in mind these rules：

· Fully charge batteries at lease once a month, more if you use the chair regularly. Charge after each trip exceeding 3 kilometers (2miles).

· If storing your chair for some time, make sure that the batteries are fully charged, and on returning, charge them again before using scooter.

· Batteries will only give maximum performance after the chair has been used, and the batteries have been recharged up to 10 times. A bit like running in a new car.

MAINTANCE AND GENERAL CARE

MAINTANCE

All technical maintenance and repair of your chair should be done by an authorized dealer. The following areas required periodic inspection:

· Tire Pressure (for air-filled tires only)
The condition of the tires and maintenance of the specified tire pressures not only influence tire life but also road safety to a very considerable extent. Incorrect pressures are often a cause of tire problem and could result in an accident. The recommended number of tire pressure is 35 lbs.

· Tire Tread - Tire Damage
Inspect the tires frequently for damage, the presence of foreign bodies, unusual the presence of foreign bodies, unusual wear and sufficient tread depth. Tread depth should if possible not be allowed to drop below 1 mm (1/16").

· Rear Caster Wheels
If the rear caster wheels are badly worn, it is recommended that they are replaced.

· Electrical Connections
The battery terminals and all plug connectors to need to be firmly attached. If battery terminals are corroded, please contact your local dealer for replacement.

· Hardware
Make sure all fasteners are present and secure. Replace any missing fasteners and tighten any loose fasteners.

· Seat Towers
The seat should remove easily. If it does not, check the locking levers in seat release mechanism are operated correctly. Clean the seat Towers but do not lubricate.

GENERAL CARE

Please comply with the following instruction, which are intended to ensure that your chair achieves its optimum operating life.

· Clean
If your chair is dirty, use a damp or lightly soapy cloth to wipe it down. Do not use running water to wash or rinse the scooter in order to protect the electrical parts. Polish with an automotive liquid polish.

· Care of seat

The seat material used by C.T.M. is a product of high quality, and will remain in good condition for many years if correctly treated. Regular cleaning and care are needed since dust and dirt, for instance from the roads, cause severe abrasion and can lead to the surface becoming prematurely brittle. You are therefore recommended to remove dust from the surface at regular intervals with a cloth.

· Care of special components

Alloy wheels : should be treated with a suitable cleaner,. particularly in the winter months, but do not use aggressive, acid, strongly alkaline or abrasive cleaning agents or steam jets at more than 60 degree (comply with the manufacturer's instructions for use).

Seat belts : should only be cleaned with mild soap suds (without removing then from the chair). Do not dry-clean or use chemical products, or the fabric may be weakened.

· Store

Between uses, your scooter is best stored in a dry location.

TROUBLESHOOTING

Flash codes indicate the nature of an abnormal condition directly from the SHARK Information Gauge. Without the use of any servicing tools, the condition can be simply diagnosed.

Flash Code	Description	
1	User Fault	Possible stall timeout or user error. Release the joystick to neutral and try again.
2	Battery Fault	Try charging the batteries. Batteries may require replacing. Check the batteries and cabling.
3	Left Motor Fault	Check the left motor, connections and cabling.
4	Right Motor Fault	Check the right motor, connections and cabling.
5	Left Park Brake Fault	Check the left park brake, connections and cabling.
6	Right Park Brake Fault	Check the right park brake, connections and cabling.
7	SHARK Remote Fault	Check the SHARK Communications Bus connections and wiring. Replace the Remote.
8	SHARK Power Module Fault	Check SHARK connections and wiring. Replace the Power Module.
9	SHARK Communications Fault	Check Battery voltage is greater than 17V. Check SHARK Bus Cable. Replace the SHARK Power Module. Replace the SHARK Remote.
10	Unknown Fault	Check all connections and wiring. Consult a service agent.
11	Incompatible Remote	The Remote is incompatible with the Power Module. Ensure the brand of the Power Module matches that of the Remote.

SPECIFICATION

Overall Length	1135 mm / 44.7"
Overall Width	635 mm / 25"
Overall Height	1185 mm / 46.7"
Wheels: Front	230 mm / 9"
Wheels: Middle	N/A
Wheels: Rear	360 mm / 14"
Weight w/ Batteries	101.8 kg / 224.3 lbs
Max. Speed	8 kmph / 5 mph
Weight Capacity	181 kg / 400 lbs
Ground Clearance	85 mm / 3.4"
Grade Climbable	8 degree
Curb Climbing	50 mm / 2"
Turning Radius	790 mm / 31.1"
Brake	Electro-Mechanical
Seat Width	500 mm / 20"
Drive Train	2-Motor Rear-Wheel Drive
Battery Weight	31.3 kg / 69 lbs
Motor Size	420W 4600 r.p.m
Travel Range	24 km / 15 Miles
Battery	(2) 12V. 50Ah
Charger	5A Off Board
Electronics	SHARK
Seat Type	Reclining Captains Chair w/ Seat Belt

*Subject to change without notice. (Issue A 10/02/2014)